

WHAT IS CLAIMED IS:

- 5 1. A microfluidic device comprising a substrate having a planar surface, a plurality of openings in said surface of microstructures and at least a portion of said openings surrounded by a collar in relief.
2. A microfluidic device according to Claim 1, wherein said collar has its inner surface aligned with the inner surface of said opening and a thickness of from about 0.05 to 0.5mm thick extending away from said inner surface.
3. A microfluidic device according to Claim 2 wherein said collar is covered with a lid of a conformable material.
- 10 4. A microfluidic device according to Claim 2, wherein said collar is covered with a lid with an adhesive coating.
5. A microfluidic device according to Claim 1 produced by plastic molding.
- 15 6. A microfluidic device comprising a substrate having a planar surface, a plurality of reservoirs having openings in said surface, said reservoirs having volumes in the range of about 10nl to 10 μ l and at least a portion of said openings surrounded by a collar in relief, having an inner surface aligned with the inner surface of said reservoir, said collar having a height in the range of about 0.1 to 1mm and thickness of from about 0.05 to 0.5mm thick extending away from said inner surface.
- 20 7. A microfluidic device according to Claim 6, where at least a portion of said reservoirs are connected to one or more other reservoirs by microchannels.
8. A microfluidic device according to Claim 6, wherein at least a portion of said reservoirs are positioned in accordance with a 96, 384 or 1536 microtiter well format.
9. A microfluidic device according to Claim 6, wherein said collar is covered with a lid.
- 25 10. A microfluidic device according to Claim 9, wherein each collar is covered with a lid, which lid is a portion of a continuous film.
11. A microfluidic device according to Claim 6, wherein said substrate comprises an acrylic polymer and is molded.
- 30 12. In a method employing a microfluidic device comprising introducing small volumes into microstructures, where the volumes comprise volatile solvents, the improvement which

